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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/597,077 | 07/11/2006 | Robert Frans Maria Hendriks | NLO40003 | 5797 |

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

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| EXAMINER |
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ORTIZ CRIADO, JORGE L

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| ART UNIT | PAPER NUMBER |
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2627

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| MAIL DATE | DELIVERY MODE |
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03/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/597,077

Applicant(s)

HENDRIKS ET AL.

Examiner

JORGE L. ORTIZ CRIADO

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-16 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows, an optical scanning device comprising an optical element of:

- a. Fig. 1-3
- b. Fig. 8
- c. Fig. 9
- d. Fig. 11
- e. Fig. 16

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The following claim(s) are generic: 1.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons:

Species a: provides for the optical element is an optical lens 2 which has a spherical shape centred about the optical axis OA. The optical lens 2 has a non-planar entrance face 4 and a planar exit face 5. The entrance face 4 has a spherical curvature which is rotationally symmetric about the optical axis OA. Each component ray of the radiation beam which may for example have a planar or spherical wavefront is differently refracted depending on a specific position at which a component ray strikes and passes through the non-planar face.

Species b: provides for first polarizing element which is a half-wave plate 54 and which is arranged along the optical axis. That the axes of polarization 53 differently modify regions of the horizontal and linear, uniform polarization of the radiation beam to form a substantially tangential, non-uniformly polarized radiation beam.

Species c: provides for a polarising element is used which includes a sub wavelength grating 56. The grating 56 comprises a plurality of alternate curved metal strips 57 and slits 58 arranged approximately radially about the optical axis OA. The metal strips 57 and the slits 58 are curved within a plane of the sub-wavelength grating 56 which is perpendicular the optical axis OA. A width of each metal strip 57 and each slit 58 is less than the wavelength of the radiation beam, the width being taken in a direction perpendicular a radius from the optical axis OA.

Species d: the polarisation control system comprises an array of linear liquid crystal elements. The polarising system is a liquid crystal cell 72 which is resistant and optically transparent to ultraviolet radiation, in particular for example, the radiation beam. The liquid crystal cell 72 comprises a first and a second, different, alignment plate 60, 62 respectively. The first and the second alignment plates 60, 62 are aligned with each other along the optical axis OA and are separated from each other by a predetermined space 63.

Species e: The phase modification element is arranged to introduce the phase modification into the radiation beam having the phase singularity. The phase modification element in this embodiment is a phase plate 99 which adds the phase factor $e^{i\phi}$ to the radiation beam to remove the phase singularity. The phase plate 99 is circular and is arranged centrally on the optical axis OA. The phase plate 99 has a radial thickness in a direction parallel the optical axis OA. The radial thickness increases at a constant rate rotationally about the optical axis OA from a minimum thickness 101 to a maximum thickness 104.

A telephone call was made to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JORGE L. ORTIZ CRIADO whose telephone number is (571)272-7624. The examiner can normally be reached on Mon.-Fri 10:00 am- 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jorge L Ortiz-Criado/
Primary Examiner, Art Unit 2627